Mississippi Canyon 252
Air Monitoring Plan

Prepared For:
MC 252 Incident Command - Safety Officer

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1.0 Introduction and Purpose

This plan is intended to protect the health and safety of workers and others who may be affected by the MC 252 incident. The origin of the oil released from the incident is located approximately 50 miles southeast of Venice, Louisiana and has the potential to impact the shore line, offshore assets, drilling rigs and other operations with oil.

This plan addresses air monitoring and sampling during the mitigation operations of the impacted areas. Thus, the purpose of this sampling includes the following:

- Monitor the air around the mitigation activities to protect potential downwind receptors.
- Monitor air in the vicinity of mitigation activities to protect workers.
- Monitor specific activities to support safe operations.

Air monitoring will continue until the mitigation process is complete. Air monitoring and sampling data will be summarized and reported to Unified Command through the Houma command Post Safety Officer.

2.0 Air Sampling and Monitoring Locations and Target Contaminants

Air monitoring is being conducted by qualified personnel stationed on roaming vessels (for water operations) or on land (for shored-based operations) throughout the work area downwind from the oil source. The roaming vessels and shore survey teams have real-time air monitoring equipment for Volatile Organic Compounds (VOCs), Lower Explosive Limit (LEL), Carbon Monoxide (CO), Benzene, and Hydrogen Sulfide (H2S). Air monitoring will be conducted at selected locations that will address potential off-site receptors, accounting for possible changes in wind-direction. In addition, air monitoring will be conducted as needed to respond to potential concerns or complaints raised on or off-site.

3.0 Real-Time Monitoring

Real-time air monitoring for VOC's will be performed during oil cleanup and source control activities. Real-time air monitoring will be performed using photo-ionization detectors (PIDs), and the UltraRAE benzene monitor. The PIDs will be used to detect volatile components of the crude oil. The UltraRAE will be used for chemical specific analysis in the event that elevated VOCs are detected using a PID. The air monitoring equipment being used is listed in Table 3.1.

Table 3.1
Real-Time Air Monitoring Equipment

Instrument	Chemical	Detection Limit	Action Level*	PEL or TLV*	STEL*
MultiRAE/AreaRAE/MSA Sirius PID	VOCs	0.1 ppm	50	100	N/A
MultiRAE/AreaRAE/MSA Sirius PID	LEL	0.1 ppm	N/A	10% (not PEL/TLV)	N/A
MultiRAE/AreaRAE/MSA Sirius PID	H2S	1 ppm	5	10	15
UltraRAE	Benzene	0.1 ppm	0.5	0.5	2.5
MSA Sirius PID	Carbon Monoxide	1 ppm	15	25	N/A

*Parts Per Million, Permissible Exposure Limit (PEL), Threshold Limit Value (TLV), Short Term Exposure Limit (STEL)

4.0 Hapsite Sampling

The Inficon Hapsite field portable Gas Chromatograph/Mass Spectrometer (GC/MS) will be utilized (if applicable) to collect air samples in the area immediately above the surface of the oil sheen in order to determine the chemical constituents that are off-gassing from the sheen and to determine the estimated concentrations of these constituents.

5.0 Sample Station Locations

Real-time monitoring locations are selected to protect the downwind receptors, including the site and source control workers. Mobile stations have been established on the vessels to sample in real-time for VOCs, H2S, and benzene. Additional manually logged real-time data will be collected and reported on approved field forms at prescribed intervals. This data will be shared with response stakeholders.

6.0 Data Quality and Documentation Management

Real-time readings will be documented on appropriate logs and forms.

Maps or diagrams of sampling locations and data summaries will be provided daily to Unified Command.

7.0 Qualified Personnel

Personnel who serve as Industrial Hygiene Technicians or Industrial Hygienists for this response shall be qualified in accordance with their respective organizations' policies to perform initial site surveys and site monitoring using appropriate atmospheric equipment for oil spill response, recovery and remediation activities. All data collected will be reviewed by a qualified Industrial Hygienist and communicated according to established communications channels for the incident.

8.0 Roles & Responsibilities of Industrial Hygiene Technicians

The Industrial Hygiene Technician's role is to ensure that personnel performing spill clean-up operations or working on the deck of response vessels are not being overexposed to benzene and other hydrocarbons. The Industrial Hygiene Technician's responsibilities include:

- Calibrating air monitoring instruments daily.
- Conducting air monitoring according to the plan and keeping written documentation of results.
- Conducting follow-up air monitoring within 15 minutes to confirm readings when results exceed the action limit.
- Informing the lead supervisor / captain on the work site / vessel immediately when results exceed action limits, so that the supervisor / captain can implement controls to protect personnel.
- Provide periodic updates of air monitoring results to the lead supervisor / captain on the work site / vessel

- Provide copies of written copies of the air monitoring results to the Industrial Hygiene Unit Leader every 6 hours.

9.0 Equipment Decontamination

None required under foreseeable conditions.

10.0 Calibration and Maintenance of Field Instruments

The calibration, usage, and maintenance of field equipment and instrumentation will be in accordance with each manufacturer's specifications or applicable test/method specifications.

11.0 Survey Guidelines and Results

Initial Site Survey：

A site survey shall occur prior to entry into the oil impacted area.
A diagram indicating where sampling was conducted and the results shall be developed and communicated to the Industrial Hygiene Unit Leader in Houma.

Site Monitoring

After initial characterization of the immediate work site has been completed, air monitoring will be continued at regular intervals in the vicinity of operations being conducted. The air monitoring results shall be sent to the Industrial Hygiene Unit Leader in Houma for review at intervals not to exceed 6 hours. At no time, though, shall air monitoring activities impede operations or endanger personnel.

The Industrial Hygiene Technician will determine location(s), time and duration of air monitoring, defaulting to monitoring every hour or as conditions change until personnel suspend operations or depart the work site. In addition to general area monitoring aboard vessels, a specific request has been made to conduct air monitoring by exhaust vents or ballast vents which discharge into the work area.

If conditions change (such as the amount of oil in the work area, an increase in a reading of VOCs, or a shift in the winds towards the workers, for example), air monitoring should be done immediately following the change, and the need to monitor more frequently should be considered.

Spill recovery sites and source control sites personnel and supervisors shall be updated regularly of the air monitoring results.

Results of Air Monitoring:

Immediately following the initial site survey, the results shall be explained by the Industrial Hygiene Technician to the lead supervisor / captain on the work site / vessel.

If results are at or above the Action Level, but below the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL):

A determination of whether to proceed with the operations shall be made by the lead supervisor / captain in consultation with the Industrial Hygiene Technician.

Personnel shall also be notified of the situation and reminded of the hazards associated with the contaminants. If personnel will be working in environments above the Action Limit, a half-face respirator with organic vapor cartridges should be used. If there is potential to come in contact with hydrocarbon contaminated material, additional PPE should be considered based on the task including nitrile or neoprene gloves, rubber boots and slicker suits.

If work is to continue when the action level is reached, air monitoring should be done at least every 15 minutes until the level drops below the action level.

If results are above the PEL, entry should not be made unless so authorized by the Unified Command via the chain of command.

If results are at or above the Short Term Exposure Limit (STEL), operations, if feasible, should be suspended and personnel moved out of the area until it can be deemed safe (air concentrations at or below the PEL).

If other personnel are working nearby, for example, on an adjacent beach, production asset or vessel, all results at or above the Action Level shall be shared with their site safety officer or lead supervisor/captain.

12.0 Questions or Concerns:

Personnel have been instructed to contact their Supervisor if they have concerns about their health due to changing workplace conditions.

These Questions or concerns shall be directed to the Safety and Health Unit so they can be assessed:

Houma Spill Operations:

Safety Officer day watch 0600-1800: Mark Pierce (BP) – 713-208-6162 cell

Safety Officer night watch 1800-0600: Joe Gallucci (BP) – 713-302-8617 cell

Asst Safety Officer day watch – Laura Weems (USCG) –202-340-7838

Documentation shall be sent to the Safety and Health Unit:

Lead day watch: Clint Honeycutt (BP): 713-449-3661

Lead night watch: Kenneth ('KP') Rosamond (BP): 713-855-2434

MSRC POC: Mark Mathews: 713-306-0523

NRC POC: Ed Doyle: 302 993-9081

CTEH Industrial Hygienist Cory Davis 501 801-8516

BP Industrial Hygiene Unit Leader Day Watch: Alvin Chapman 307-399-1361

BP Industrial Hygiene Unit Leader Night Watch: Stan Burt 281-381-8128

Houston Source Control:

Safety Officer: 281-366-5520

Safety & Health Unit Leader: 281-366-6916